

1. (Twice Amended) An isolated polypeptide comprising a sequence at least 98 percent identical to either SEQ ID No: 17 or an N-terminal fragment of SEQ ID No: 17 having a molecular weight of about 19 kD, which polypeptide binds to a *patched* protein or promotes proliferation of testicular germ line cells.
2. (Twice Amended) An isolated polypeptide consisting essentially of a sequence at least 98 percent identical to either SEQ ID No: 17 or an N-terminal fragment of SEQ ID No: 17 having a molecular weight of about 19 kD, which polypeptide binds to a *patched* protein or promotes proliferation of testicular germ line cells.
3. (Twice Amended) An isolated polypeptide comprising a sequence identical to either SEQ ID No: 17 or an N-terminal fragment of SEQ ID No: 17 having a molecular weight of about 19 kD, which polypeptide binds to a *patched* protein or promotes proliferation of testicular germ line cells.
4. (Twice Amended) An isolated polypeptide consisting essentially of a sequence identical to either SEQ ID No: 17 or an N-terminal fragment of SEQ ID No: 17 having a molecular weight of about 19 kD, which polypeptide binds to a *patched* protein or promotes proliferation of testicular germ line cells.

7. (Amended) The polypeptide of any of claims 1-4, wherein said polypeptide binds to *patched* and promotes *hedgehog* signal transduction.

9. (Amended) The polypeptide of claim 7, wherein the binding of the polypeptide to *patched* results in upregulation of *patched* and/or *gli* expression.

*The amended claims are re-stated below to reflect changes with respect to the last filing.*

1. (Twice Amended) An isolated polypeptide comprising a sequence at least 98 percent identical to either SEQ ID No: 17 or an N-terminal fragment of SEQ ID No: 17 having a molecular weight of about 19 kD, which polypeptide binds to a *patched* protein or promotes

proliferation of testicular germ line cells ~~A method for promoting survival of substantia nigra neuronal cells comprising contacting the cells with an amount of a *hedgehog* agonist sufficient to promote the survival of substantia nigra neuronal cells.~~

2. (Twice Amended) An isolated polypeptide consisting essentially of a sequence at least 98 percent identical to either SEQ ID No: 17 or an N-terminal fragment of SEQ ID No: 17 having a molecular weight of about 19 kD, which polypeptide binds to a *patched* protein or promotes proliferation of testicular germ line cells ~~A method for promoting survival of dopaminergic cells comprising contacting the cells with an amount of a *hedgehog* agonist sufficient to promote the survival of dopaminergic cells.~~

3. (Twice Amended) An isolated polypeptide comprising a sequence identical to either SEQ ID No: 17 or an N-terminal fragment of SEQ ID No: 17 having a molecular weight of about 19 kD, which polypeptide binds to a *patched* protein or promotes proliferation of testicular germ line cells ~~A method for promoting survival of GABA-nergic cells comprising contacting the cells with an amount of a *hedgehog* agonist sufficient to promote the survival of GABA-nergic cells.~~

4. (Twice Amended) An isolated polypeptide consisting essentially of a sequence identical to either SEQ ID No: 17 or an N-terminal fragment of SEQ ID No: 17 having a molecular weight of about 19 kD, which polypeptide binds to a *patched* protein or promotes proliferation of testicular germ line cells ~~A method for treating a disorder characterized by loss of dopaminergic and/or GABA-nergic neurons which comprises administering to a patient a therapeutically effective amount of a *hedgehog* agonist sufficient to decrease the rate of neuron loss.~~

7. (Amended) The polypeptide method of any of claims 1-4 1-6, wherein said polypeptide ~~the *hedgehog* agonist~~ binds to *patched* and promotes *hedgehog* signal transduction.

9. (Amended) The polypeptide method of claim 7, wherein the binding of the *hedgehog* agonist polypeptide to *patched* results in upregulation of *patched* and/or *gli* expression.